REMARKS

By the present communication, claims 15-17, 19, 120-129, 132, 134 and 135 have been amended. No new matter is introduced as the claimed subject matter is fully supported by the specification and claims as originally filed. Amendments submitted herewith are not to be construed as a dedication of the subject matter not presently claimed to the public. Applicants reserve the right to pursue claims as originally filed in a continuation application.

Applicants note that the Office Action Summary page 1 identifies only claims 19, 20 and 120-141 as pending. Applicants believe that this is a mistake, and such conclusion is supported by, for example, the rejection at the bottom of page 4 of the Office Action, identifying claims 15-19 and 120-141 as rejected claims. Accordingly, Applicants believe that claims 15-19 and 120-141 are pending and under active prosecution. The Listing of Claims with appropriate status identifier begins on page 2 of this communication.

Claim 15 is amended to define the invention with greater particularity. Support for amendment to lines 1-2, "A method for developing **improved** ligands **binding to** ~~**with increased**~~ PIM ~~**specificity**~~ **kinase**", can be found, for example, in paragraphs **[0012]**, **[0023]**, and **[0025]**, where methods of developing improved ligands binding to PIM kinase are provided. Additional method steps are added in lines 3 and 4, where "**identifying a molecular scaffold compound that binds to a binding site of the PIM kinase**" is supported, for example, in paragraphs **[0025]-[0026]**, **[0036]**, and **[0233]**, where discussion of identifying such molecular scaffolds or binding compounds for use in methods of developing ligands is detailed. Such methods further involve "**preparing a derivative of the molecular scaffold compound**", as detailed, for example, in the original claim and further in paragraphs **[0012]**, **[0015]**, **[0026]**, and **[0033]**, which details what is meant by "derivative" and how it would be prepared. Regarding the remainder of the claim amendment, "testing **[[a]]** **said** derivative ~~**of a kinase binding compound**~~ for **binding to PIM with** increased **[[PIM]]** specificity **relative to the molecular scaffold compound**, wherein **said binding to PIM with** increased specificity is indicative that said

derivative is **[[a]] an improved** ligand ~~**with increased PIM specificity**~~" --- "a" is changed to "said" as derivative has antecedent basis by the addition of line 4; "of a kinase binding compound" following derivative is deleted as the term "derivative" is clear and the additional description is unnecessary. The remainder of the amendments provide clarification that the derivative is tested for binding to PIM with increased specificity relative to the scaffold compound, which finds support, for example, in paragraph **[0012]**.

Claims 16 and 17 are amended to change "a kinase binding compound" to "molecular scaffold compound", consistent with amendments to Claim 15.

Claim 19 is amended to define the invention with greater particularity. Addition of lines 2 and 3 find support, for example, in paragraphs **[0012]**, **[0015]-[0016]**, **[0026]**, and **[0033]**, where identifying scaffolds and preparing derivatives of a parent compound that binds to PIM-1 are discussed, where the language further defining the derivative as having a core structure of Formula I, II, or III is supported in the original claim. Amendments to lines 4-8 are supported by the claim as originally filed, where "a" is amended to "the", as antecedent basis for derivative is provided by addition of line 3, and the language further defining the derivative as having a core structure selected from Formulae I, II, or III has been moved to follow the introduction of the term "derivative" in lines 3-5.

Claim 120 is amended to define the invention with greater particularity. The addition of lines 3-5 is supported, for example, in paragraph **[0012]** and the claim as originally filed, where the compound that binds to PIM-1 and interacts with one or more of PIM-1 residues residues 49, 52, 65, 67, 121, 128, and 186 is first identified as a molecular scaffold compound, as further supported, for example, by paragraphs **[0025]-[0026]**, **[0036]**, and **[0233]**, and the derivative of the molecular scaffold is supported, for example, in paragraphs **[0012]**, **[0015]**, **[0026]**, and **[0033]**, which details what is meant by derivative and how it would be prepared. Amendments to lines 6-10 are supported by the claim as originally filed, where "a" is amended to "the", as antecedent basis for derivative is provided by addition of line 5; "of a compound...and 186" following derivative is deleted as the term "derivative" is clear and the additional description is

unnecessary. The term "molecular scaffold" is inserted before "compound", consistent with the addition of line 3.

Claims 121 and 123 are amended to insert "molecular scaffold" before "compound", consistent with amendment to claim 120. Claim 122 is amended to be consistent with Claims 120 and 121 as currently amended.

Claim 124 is amended to define the invention with greater particularity. The addition of lines 3-5 is supported, for example, in the claim as originally filed, where the compound that binds to a plurality of different kinases is first identified as a molecular scaffold compound, as further supported, for example, by paragraphs **[0025]-[0026]**, **[0036]**, and **[0233]**. Further, that the compound binds to a plurality of "different" kinases is supported, for example, in paragraph **[0075]**. Further, the derivative of the molecular scaffold is provided, as supported, for example, in paragraphs **[0012]**, **[0015]**, **[0026]**, and **[0033]**, which details what is meant by derivative and how it would be prepared. Amendments to lines 6 and 7 are supported by the claim as originally filed, where "a" is amended to "the", as antecedent basis for derivative is provided by addition of line 5; "of a compound that binds to a plurality of kinases" following derivative is deleted as the term "derivative" is clear and the additional description is unnecessary. The term "molecular scaffold" is inserted before "compound", consistent with the addition of line 3.

Claims 125-128 are amended to insert "molecular scaffold" before the term "compound", consistent with amended claim 124. Claim 125 is also amended to insert "different" in the term "plurality of different kinases", consistent with amended claim 124.

Claim 129 is amended to remove the term "and" from line 5.

Claim 134 is amended to define the invention with greater particularity. Addition of the steps of identifying chemical structures within the compounds of Formulae I, II, or III and synthesizing a ligand are fully supported by the specification. Use of compounds of Formulae I, II, or III as scaffolds is supported by the original claim as filed, as well as paragraphs **[0036]-**

[0037], with the additional steps of identifying chemical structures and synthesizing a ligand supported by paragraph **[0025]**.

In addition, by the present communication, numerous paragraphs throughout the specification have been amended to address various informalities identified in the Office Action. For example, each occurrence of trademark terminology has been amended to expressly acknowledge the fact that the terminology employed is subject to trademark protection. Other amendments to the specification introduce sequence identifiers, as appropriate, at each mention of various PIM kinases referred to throughout.

Furthermore, the present communication provides replacement sheets for Tables 2 and 3, wherein all sequences referred to therein are now identified with a unique Sequence Identifier. Additionally, these tables has been re-rendered to replace the color scheme as originally filed with a grayscale scheme. Furthermore, the textual material (i.e., legend) originally included with Table 2 has been incorporated into the specification at paragraph **[0146]**. This textual material has been insubstantially amended to replace reference to color coding in the original Table 2 with reference to corresponding grayscale markings. No new matter is introduced by these amendments as the subject matter is fully supported by the specification as originally filed.

Applicants request entry of the foregoing amendments. In view of the preceding amendments and the remarks made herein, the present application is believed to be in condition for allowance.

Rejection under 35 U.S.C. § 102(e)

Claims 15-18 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by US 2004/0146942 ('942). According to the Office Action, the '942 teaches a method of identifying inhibitors of PIM-1 and PIM-3 kinase. Applicants' claim 15, as currently amended, includes the step of identifying a molecular scaffold compound, and the step of preparing a derivative of the

molecular scaffold compound, where the derivative is an improved ligand relative to the molecular scaffold compound. The '942 reference does not describe identifying a molecular scaffold compound and preparing a derivative of the molecular scaffold compound. Instead, the '942 reference teaches a method of compound screening. As such, the '942 does not anticipate Applicants' claim 15, nor the dependent claims 16-18. Applicants respectfully request withdrawal of the rejection.

Rejection under 35 U.S.C. § 103(a) over '942 in view of U.S. patent 6,197,495, 6,465,484, and WO 01/87887.

Claims 15-19 and 120-141 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over '942 in view of U.S. patent 6,197,495 ('495), 6,465,484 ('484), and WO 01/87887 ('887). In addition to the '942 teaching as discussed above, the Office Action indicates that the '495 patent is relied on to demonstrate identifying of compounds that bind to a binding site of a protein using commercially available computers and software, '484 teaches derivatives of formula I, '887 teaches derivatives of formula II. Thus, the Office Action alleges that it would have been obvious to develop inhibitors for PIM-1 or PIM-3 based on the '942, obvious to use a commercially available computer and software to fit a model in order to identify inhibitors based on the '495, and to use known kinase inhibitors as a starting material based on the '484 and '887. As discussed above, Applicants' independent claims 15, 19, 120, and 124, as currently amended, include the steps of identifying a molecular scaffold compound and preparing a derivative of the molecular scaffold compound, which is not taught in the '942 reference, nor is this taught in any of the additional references cited, nor in any combination of these references. As such, the combination of references cited do not provide the invention as claimed in claims 15, 19, 120 or 124, or any dependent claims thereof.

With respect to independent claims 129 and 134, Applicant's believe that the Office Action did not adequately address all aspects of these claims. The Office Action says nothing of the steps of identifying chemical structures for modification and synthesizing a ligand, wherein one or more of the chemical structures is modified to provide a ligand having defined properties.

These steps are not taught by the '942 reference, nor do the additional references cited nor any combination of references provide this teaching. The combination of references cited do not provide the invention as claimed in claims 129 and 134, or any dependent claims thereof. Applicants respectfully request withdrawal of the rejection.

Rejection under 35 U.S.C. § 103(a) over Mochizuki et al. in view of U.S. patent 6,197,495, 6,465,484, and WO 01/87887.

Claims 15-19 and 120-141 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Mochizuki et al., in view of U.S. patent 6,197,495 ('495), 6,465,484 ('484), and WO 01/87887 ('887). The Office Action alleges that the Mochizuki reference provides motivation to identify potential inhibitors for PIM-1, and that it would be obvious to use a commercially available computer and software to fit a model in order to identify inhibitors based on the '495, and to use known kinase inhibitors as a starting material based on the '484 and '887. As discussed above, Applicants' independent claims 15, 19, 120, and 124, as currently amended, include the steps of identifying a molecular scaffold compound and preparing a derivative of the molecular scaffold compound, which is not taught in the Mochizuki reference, nor is this taught in any of the additional references cited, nor in any combination of references. As such, the combination of references cited do not provide the invention as claimed in claims 15, 19, 120 or 124, or any dependent claims thereof. With respect to independent claims 129 and 134, these include the steps of identifying chemical structures for modification and synthesizing a ligand, wherein one or more of the chemical structures is modified. These steps are not taught by the cited references nor any combination thereof. As such, the combination of references cited do not provide the invention as claimed in claims 129 and 134, or any dependent claims thereof. Applicants respectfully request withdrawal of the rejection.

In view of the above amendments and remarks, prompt and favorable action are respectfully requested. In the event that any matters remain to be resolved in view of this communication, the Examiner is encouraged to call the undersigned so that a prompt disposition of this application can be achieved.

With the petition for extension of time provided herewith, this submission is filed timely. No additional fee is believed due with the present submission. However, the Commissioner is hereby authorized to charge any additional fees which may be required regarding this application, or credit any overpayment, to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. § 1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

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By _____

FOLEY & LARDNER LLP
P.O. Box 80278
San Diego, CA 92138-0278
Telephone: 858-847-6700
Facsimile: 858-792-6773

Richard J. Warburg
Registration No. 32,327
By Stephen E. Reiter
Registration No. 31,192
Attorneys for Applicant

Attachments—replacement pages 154 – 164 (Tables 2 and 3)